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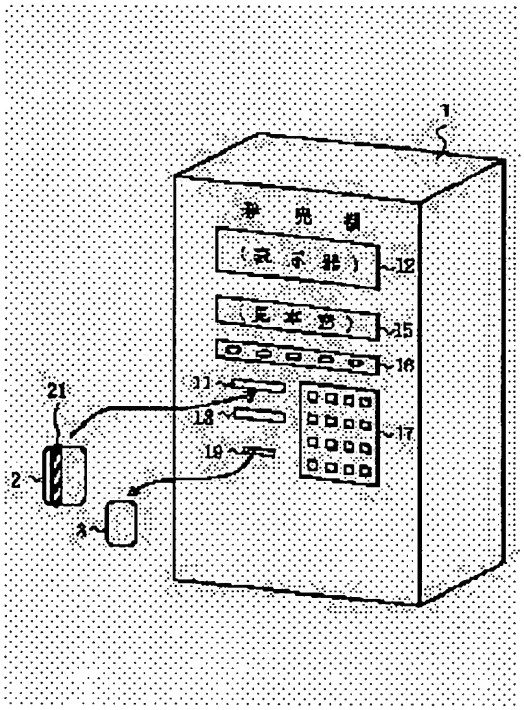
(54) AUTOMATIC VENDING MACHINE

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent a debt from becoming impossible to get back by providing a means for recognizing and displaying a usable limited amount at a Pachinko (Japanese pinball game) concerning the account of a credit card with respect to an automatic vending machine renting Pachinko balls or selling rental ball tickets by a credit card.

SOLUTION: A ticket machine 1 being the automatic vending machine installed at a Pachinko parlor sells a rental ball ticket (prepaid card by a magnetic card) 3 through the use of the credit card 2. The correctness of the card 2 inserted to an inserting port 11 is inspected and the debt setting of a designated amount is executed from the account of the card 2 whose correctness is inspected to eject the rental ball tickets equivalent to the amount. In this case, as information on a maximum usable amount is recorded in the record medium 21 of the card 2, the maximum usable amount at the Pachicnko game concerning the account is read by a credit card receiving and reading device to be recognized by a CPU and then the maximum amount is displayed on a display 12.



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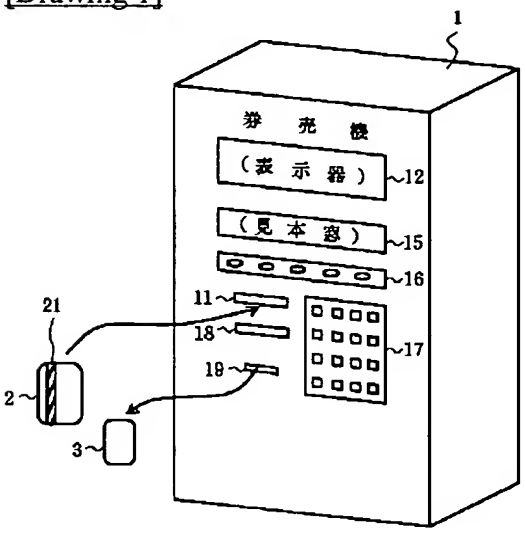
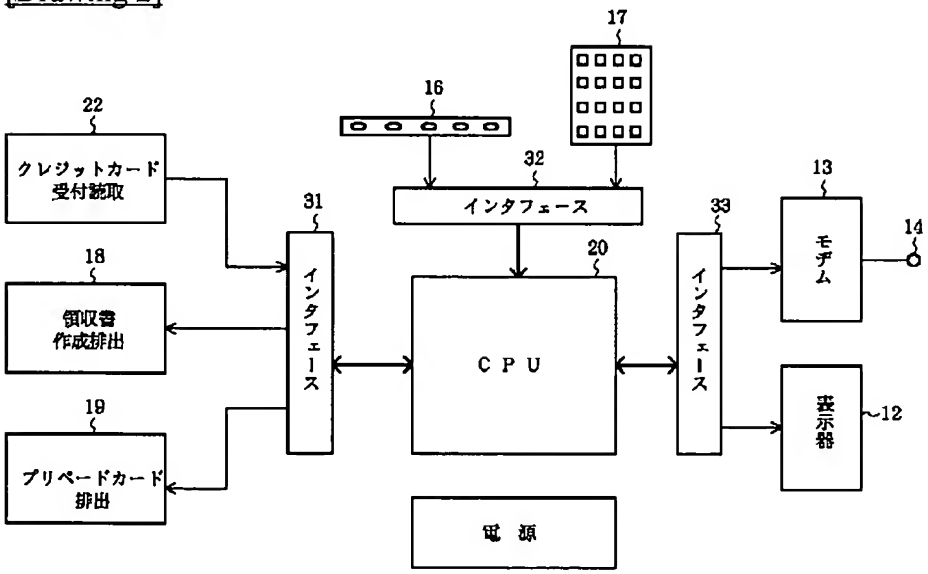
DRAWINGS

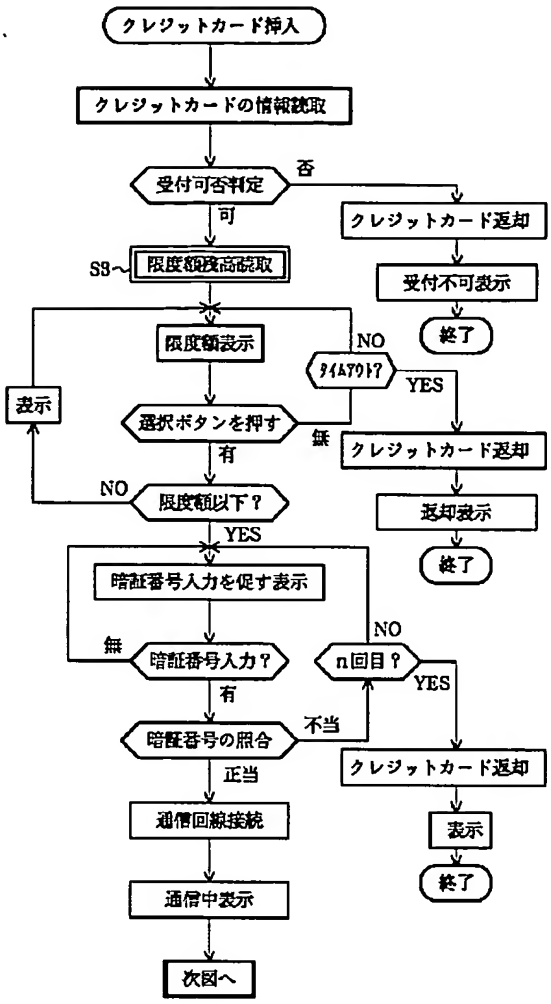
[Drawing 1]



[Drawing 2]



[Drawing 3]


クレジットカード挿入
クレジットカードの情報読取
受付可否判定
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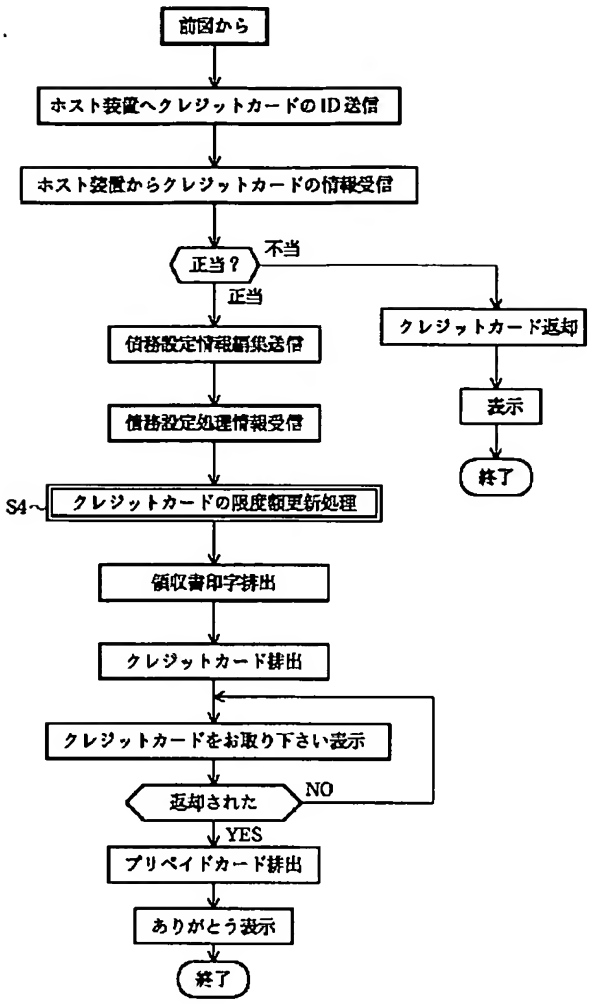
[Drawing 4]



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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention is used for the automatic vending machine which sells the ball for pachinko on hire, or **** on hire with a credit card, or its credit card. A credit card has two kinds of the case where the credit card accepted at a general department store and a general store is used in common, and the case of the credit card set as dedication for pachinko games. Although it is born as that technical side face in order that this invention may introduce a credit card into pachinko industry, invention indicated with this specification and drawing, especially invention about the truth judging of a card can be used besides pachinko.
[0002]
[Description of the Prior Art] He cannot buy game service of pachinko with the present condition using a credit card. Pachinko is one gamble and this is because a debt may increase exceeding the capacity of settlement of loss if you will be able to buy gamble not with cash but with a credit. Moreover, if the credit card which is not just may be used, since those (pachinko contractor) who offered service for those (those who performed the pachinko game) who received service will not recognize the face of each other in many cases, it is possible that processing of the rearrangement becomes complicated from the case where common goods are purchased. That is, it is required to assume beforehand that a credit card may be used by those who are neither the credit card which is not just, nor a just holder by the theft of a card, loss, forgery, or alteration.
[0003] Generally on commercial dealings, the easy goods of liquidation are the Ruhr which cannot be bought with a credit card. A gift certificate, the ticket of a railroad, etc. are the example. However, the cash of a small sum can be borrowed using a credit card. With the case of goods purchase, the severe limit limit of a separate heading is set to this. That is, apart from the case where goods are purchased to this, the measure of the limit of a small sum being set up according to an individual is taken so that individual liquidation capacity may not be exceeded. Also in this case, it is required to take suitable measures to use of the credit card which is not just, it restricts to the time when cash is borrowed, and the Ruhr on use of to use the personal identification number of a credit card being needed is set up. On the other hand, the applicant for this patent did patent application of the technique of using the jitter already produced to the magnetic storage medium on a card, as a technique of guaranteeing the justification of a magnetic card (it is only called "prior" un-opening to the public and the following at the time of Japanese Patent Application No. No. 309576 [eight to], and this application application). This is based on the technique proposed by Mr. Fernandez by U.S. Pat. No. 5235166 or U.S. Pat. No. 5430279. When recording digital information on the magnetic storage medium of a card, it is generated accidentally, and the jitter which produces this technique automatically to the magnetic storage medium of a card tends to identify the justification of a card using this. That is, the jitter generated to a magnetic storage medium is very difficult to be generated accidentally and to generate the jitter beforehand set as the origin of specific control. Generally, a jitter is record of digital information, or a noise about reading, and should make equipment which a jitter does not generate if possible. When the fixed differential threshold is prepared and the already generated analog-jitter is digitized and identified about much bit information, at one minute a fixed rate, 1000 [for example,], and 1/10,000 and that rate Even if it may be identified in case of the jitter same by chance, a different jitter by identifying the jitter which remains by chance on the magnetic storage medium with easy equipment and easy software, it is the just thing which existed since the record on the magnetic storage medium began, or it is rewritten by forgery or considerable highly precise truth discernment can be performed.
[0004]
[Problem(s) to be Solved by the Invention] On the other hand, pachinko industry turned into huge leisure industry of a scale several 10 trillion yen per year. If a credit card will be accepted in pachinko industry if a pachinko game can be

used for a credit card namely, the large profits for the company which manages a credit card can be produced. This invention notes introducing the technique about the above-mentioned jitter, in order to perform examination for introducing a credit card into pachinko industry and to make truth discernment capacity of a credit card high.
[0005] While many inaccurate prepaid cards were manufactured and this circulated by the illegal root when the prepaid card was introduced into pachinko industry from several years before as known well, since distinction with a just prepaid card stopped sticking with use equipment, also socially, it became a large problem. If a credit card is introduced into pachinko industry, causing the problem by new injustice or forgery is assumed, and installation of a credit card must recommend a plan very carefully, after examining various possibility.
[0006] In the present condition, in order to prevent unjust use, the prepaid card for pachinko is the card of another kind at every hole (pachinko parlor), and treatment by which the prepaid card of one sheet is accepted also in what hole is restricted in principle. If a credit card is introduced into pachinko industry, it should enable it to buy the present prepaid card, using a credit card as a first stage story, ball lending is directly carried out with a credit card as a second stage story, and it should enable it to receive a ball loan from an opportunity.
[0007] Although it is desirable that the common credit card which is circulating in the world widely can be used as for the credit card for pachinko, it will take time amount, before this is recognized in the industry of a credit card. Therefore, it is possible to organize the system of the credit card only for pachinko as the preceding paragraph story. And a use limit special to pachinko is set up in the use system of a credit card, and it should enable it to enjoy pachinko in the use limit.
[0008] Furthermore, in order to have a credit card, they must be those to whom he has social fixed trust in general society. It is the visitor who the visitor who uses a credit card also for a pachinko parlor has an income more than fixed, and has social trust, and supposing it is specially discriminable as the customer, this will serve as an advantage which introduces a credit card into the pachinko industry.
[0009] This invention is carried out to such a background and it aims at offering required equipment from the technical side face for introducing dealings by the credit card into pachinko industry. the available limit set up for every credit card in order to use this invention for pachinko -- a user -- it aims at his offering the automatic ticket vending machine and credit card which can be correctly recognized at the time at every use. This invention aims at offering the equipment and the credit card with which a user cannot alter unjustly the available limit set up for every credit card.
[0010]
[Means for Solving the Problem] It is the automatic ticket vending machine which charges the amount of money equivalent to the prepaid card which sold the prepaid card for pachinko the first of this invention using the credit card, and was sold to the account of the credit card. Namely, a verification means to verify the justification of the credit card with which this invention was inserted in insertion opening and its insertion opening of a credit card, In the automatic vending machine equipped with a means to perform a setup of the debt of the assignment amount of money from the account of a credit card by which justification was verified with the verification means, and a means to discharge suitable **** for pachinko on hire (or ball on hire) in said amount of money It is characterized by having a means to recognize the available limit in the pachinko about said account, and the means which displays the limit (optical display, acoustical display, and printing display).
[0011] preparing the available limit of pachinko independently set to pachinko for a credit card, in order to use for carrying out ball lending -- required -- the automatic vending machine of this invention -- a user -- he and the balance of a limit which can be used for the manager of a hole (pachinko parlor) with the credit card if required must be able to be told. It is most appropriate for this display to a display window to perform an optical display, displaying with voice collectively is possible, and it is also possible to perform a printout if required. As the manager of a hole can see later, it is also good to record the use balance on a store with ID of a credit card.
[0012] It must verify that a credit card is just. It is most desirable to consider as the configuration which includes the means of communications prepared between host equipment and a means to refer to the information from the host equipment connected through this means of communications in a verification means for that.
[0013] The information on an available limit is recordable on the storage of the credit card concerned. In that case, a means to recognize that limit amount of money is considered as a configuration including a means to read the information recorded on the storage of this credit card.
[0014] The information on an available limit is recordable on host equipment. In that case, it considers as a configuration including a means to receive the information on the limit which comes from host equipment through said means of communications.
[0015] Information on the limit which can be used can be made into the information recorded on the storage of the

credit card concerned. In that case, as for the information on this limit, it is desirable to consider as the information which combined and was recorded on host equipment. And it is effective to carry out comparison reference of the two information.

[0016] In this invention, in order to guarantee the justification of a credit card, a jitter can be used. Namely, it is collectively recorded by the information concerning the jitter produced when recording said limit on this magnetic storage medium at the storage of a credit card including a magnetic storage medium. A means to detect the jitter produced when a means to recognize the limit which can be used recorded the limit, It is good to consider as a configuration including a means to recognize the justification of that limit by collating the information about the jitter detected by this means to detect, and the jitter recorded on that storage. As for the information concerning this jitter, considering as the enciphered information is desirable. This information is decrypted using the key corresponding to that encryption to use this enciphered information. That is, a means to recognize the justification of this invention holds the just key for decrypting the enciphered information, reads the information about a jitter, and includes a means to decrypt this information.

[0017] The equipment of this invention can be equipped with the means which carries out updating record of the information on a limit further. That is, if the equipment of this invention reads the information on a limit and it recognizes that this is just, it will deduct the amount of money which it is going to use from the information on this limit, and will record the amount of money after this total as a new limit. The jitter produced by this updating is detected at this time, the information about this jitter is enciphered, and it records on a predetermined storage.

[0018] The second of this invention is the credit card which can be used for such pachinko. That is, when the credit card of this invention records digital information on the magnetic storage medium including a magnetic storage medium, the information about the jitter produced accidentally is recorded. As for the credit card of this invention, it is desirable to consider as the configuration containing IC (integrated circuit) storage other than a magnetic storage medium. It is desirable to record the information about the jitter on some storages (for any of a magnetic storage medium and IC storage to be sufficient) of the card. The information about the jitter is also recordable on the host equipment connected with the equipment using the card by the communication line. And as for the jitter produced accidentally, it is desirable to consider as the configuration observed and recorded about the information on an available limit as it cannot alter.

[0019]

[Embodiment of the Invention]

[0020]

[Example] Drawing 1 is the external view of this invention example equipment. Drawing 2 is the electronic-circuitry block block diagram of this example equipment. Drawing 3 and drawing 4 are flow charts which explain actuation of CPU (central control unit)20 among this electronic circuitry.

[0021] this invention example automatic vending machine (henceforth a "ticket machine") 1 is equipment installed in a hole (pachinko parlor), and sells the prepaid card 3 by the magnetic card which is a ball lending ticket for pachinko using a credit card 2. This ticket machine 1 performs a debt setup of the assignment amount of money from the account of the credit card with which the justification of the credit card 3 inserted in the insertion opening 11 and its insertion opening 11 of a credit card was verified, and that justification was verified, and discharges the suitable prepaid card 3 for pachinko in that amount of money. This actuation is performed by the software loaded to CPU20 and it which were mounted in this ticket machine 1. The detail of this configuration and actuation is explained in detail using a flow chart afterwards.

[0022] The description of this invention is in the place equipped with a means to recognize the available limit in the pachinko about said account, and a means to display the limit here. As for this means to recognize, this is also prepared in said CPU20, and this means to display is a drop 12. This verification means is equipped with the modem 13 as means of communications and communication line 14 which were prepared between host equipment (outside of drawing), and a means (prepared in CPU20) to refer to the information from the host equipment (outside of drawing) connected through this means of communications. The information on this limit is recorded on the storage 21 of the credit card 2 concerned, and a means to recognize that limit is formed in the credit card reception reading machine 22 and CPU20 as a means to read the information about that limit recorded on that storage 21. The information on this limit is recorded also on host equipment, and is equipped with a means (prepared in CPU20) to receive the information on that limit that comes from host equipment through said means of communications, and the means (prepared in CPU20) which carries out comparison reference of both the information.

[0023] If a user explains briefly the actuation which buys the prepaid card 3 which is **** on hire using a credit card 2 using drawing 1 , the sample of five kinds of prepaid cards is displayed by the sample aperture 15. A user inserts his

own credit card 2 in the credit card insertion opening 11. And it chooses by wanting to buy which of the prepaid card sample currently displayed by the sample aperture according to the guidance displayed on a drop 12, or pushing the selection carbon button 16. Since the directions for which the input of a personal identification number is urged to a drop 12 will be displayed if it does so, a personal identification number is inputted into a key 17 according to it. If this justification is checked, a receipt is discharged by the receipt creation ejector 18, a credit card 2 will be returned to the credit card insertion opening 11, and the desired prepaid card 3 will be discharged from the prepaid card ejector 19. In the account of the credit card concerned, a debt setup equivalent to the amount of money of the prepaid card is performed.

[0024] If drawing 2 explains the configuration of the electronic circuitry of this example equipment, three interfaces 31, 32, and 33 are connected to CPU20. The interface 31 is connected to the reception reading machine 22, the receipt creation ejector 18, and the prepaid card ejector 19 of a credit card. The credit card reception reader 22 is equipment for incorporating the credit card 2 inserted in the insertion opening 11 inside, and reading the information recorded on the storage 21, and writing in information required for the storage 21. When a credit card 2 is an IC card, it has a connecting means for the integrated-circuit part, and it is constituted so that read-out and the store of data can be performed. This credit card reception reading machine 22 is equipment known widely, and omits detailed explanation. The receipt creation ejector 18 is equipment which prints information required for a roll sheet according to the signal given to an interface 31. It is equipment with which this equipment was also known widely, and detailed explanation is omitted. The prepaid card ejector 19 is equipment which chooses one of them and is discharged to an exhaust port according to the signal given from an interface 31 while carrying out a large number maintenance of the prepaid card exhibited by the sample aperture 16 covering two or more kinds. It is equipment with which this equipment was also widely known for the automatic vending machine of a ticket etc.

[0025] The selection carbon button 16 and the key 17 are connected to the interface 32. These actuation inputs are changed into an electrical signal, and are given to CPU20 as an input signal through an interface 32. The indicator 12 and the modem 13 are connected to the interface 33. It is equipment with which a drop 12 displays an alphabetic character and a graphic form so that a user may be legible, and the directions about actuation are performed. A phonological representation can be put side by side to this drop 12. A modem 13 is equipment connected with host equipment (outside of drawing) by the communication line 14. Information is transmitted to host equipment with a modem 13, and the information from host equipment is received, and it gives CPU20.

[0026] Below, drawing 3 and drawing 4 are used and actuation of CPU20 is explained in detail. Insertion of a credit card reads information in the storage of the credit card. The reception judging of whether that credit card is the thing of the class which can be treated with this ticket machine is performed. When it is a credit card [being unreceivable], the credit card is returned and it indicates are unreceivable to a drop. When it can receive, the available limit for pachinko currently recorded on the storage of the credit card is read. Although this available limit has the justification of that record evaluated using the jitter produced to the magnetic storage medium, explanation detailed to this pan is given later.

[0027] If it turns out that record of a limit is just, while displaying the limit on an indicator 12, the depression of the selection carbon button 16 is urged. If the selection carbon button 16 is operated by the customer and pushed, when distinguishing and exceeding whether the contents of actuation exceed a limit, it will display and another selection will be urged. If the contents of actuation are less than limits, the input of a personal identification number will be urged to a drop 12. If the actuation input of the personal identification number is carried out, it will collate with the information on the personal identification number read in the storage of the credit card, and the justification will be judged. When not just, the input of a personal identification number is urged to n counts set up beforehand, but when a just personal identification number is not inputted more than n times, while returning the credit card, since a personal identification number is not collated with a drop 12, it indicates that there is nothing a reception eclipse.

[0028] When a personal identification number is just, connection actuation of a communication line is performed to host equipment (outside of drawing). In the meantime, it displays that processing is advancing on a drop 12. CPU20 will transmit ID information and others of the credit card concerned to host equipment, if connection with host equipment is made. According to that ID information, it refers to host equipment, the information about that credit card is edited, and it transmits to this ticket machine. CPU20 of this ticket machine will check the justification of the credit card concerned once again, if the information from host equipment is received. That is, it checks collating with the information already recorded on the storage of a credit card, and the information by which this is recorded on host equipment although the justification of a personal identification number and others is recognized. if not just, it will indicate that a credit card is returned and there is nothing reception ** also in this phase.

[0029] When the justification of this credit card has been recognized also to the information transmitted from host

.equipment, the information containing the amount of money of the prepaid card to sell is edited, it transmits to host equipment, and a debt setup is performed to the account of that credit card. With host equipment, if this debt setup is performed, that processing information will be returned. Reception of this processing information updates the available limit about the pachinko currently recorded on that credit card. Although the confirmed information of the justification by the jitter is added also about this update process, the detailed explanation about this processing is described later.

[0030] It pulls, and creation printing is carried out and a continuation receipt is discharged. A credit card is discharged and returned. a check of return of a credit card performs the display which discharges a prepaid card, and it is and is obtained with **.

[0031] Explanation of the above-mentioned example explained that the check about the justification of the credit card and an available limit was performed to host equipment for every time of purchase actuation of a prepaid card. Although this is the most desirable method, connection of the communication line to host equipment and response processing of host equipment take suitable time amount. Therefore, without performing processing of confirmation operation or a debt setup to host equipment each time, in order to employ the selling method by such credit card, after dealings of selling a prepaid card are completed, the case where the method which carries out report processing of the dealings performed to host equipment later is needed can be considered. The check of the available limit recorded on the credit card becomes very important at this.

[0032] Here, the technique of evaluating the justification about an available limit using a jitter is explained. A limit available about pachinko is recorded on the magnetic storage medium of a credit card. This is explanation of detailed actuation of step S3 shown in drawing 3 and drawing 4 by the double plate, and S4.

[0033] If digital data is written in that magnetic storage medium when performing this record, a jitter will occur in that digital data. This jitter is automatically generated by the nonuniformity of that storage itself, the drive nonuniformity of write-in equipment, the nonuniformity of a write-in signal on the strength, etc. The location of the peak value of the still more specifically written-in data is changing slightly and delicately. It is confirmed that this can detect the description of the jitter in detail to considerable extent with an easily realizable exact clock signal.

[0034] Therefore, once it records data, the jitter of the data will be detected following it and the information showing the description of the jitter will be encoded. In order to encode the information showing the description of the jitter, it is good to use a fixed code regulation. This code regulation is held at that recording device, and can be taken out no longer outside depending on normal operation. The information on the encoded jitter is recorded on somewhere in the card. Some magnetic storage media which detected the jitter are sufficient as this, and it may completely be recorded on another storage, for example, integrated-circuit memory. However, when recording on the same storage, it is required to be the location which does not destroy jitter itself which is made into the object.

[0035] When this data is read, it can evaluate whether that data is altered by detecting this jitter. That is, in case data are read, that jitter is read collectively, the information which encoded the information showing the description of that jitter further already recorded is read, this encryption processing is decoded, and it collates whether it is in agreement with the information showing the description of that detected jitter. If there is an informational alteration, generally the information about a jitter will change with such actuation, and it can judge whether it was altered or not in an easy and high precision.

[0036] When the jitter which is similar to a loan even if it will carry out if it recognizes very with high precision in case data are recorded on a magnetic storage medium, and the same jitter cannot occur by any means has occurred, how to catch the description may recognize as data which is not having altered data altered by whether it is carried out with high precision. For example, according to gap of peak value for the description, the gap will be depended on which [with a high frequency] has judged which with the clock signal with a high precision. In the result of a trial, it was confirmed by the experiment that this can be judged to extent practical enough with the usual precision which can be installed in the usual automatic vending machine etc. For example, it is easy to make possibility of recognizing it as the thing which is not having altered data altered or less into 1/10,000.

[0037] Namely, with the equipment of this invention, a magnetic storage medium is included in the storage of a credit card. A means it to be collectively recorded by the information concerning the jitter produced when recording the information on a limit on this magnetic storage medium, and to recognize the limit of equipment It considers as a configuration including a means to recognize the justification of that limit, by collating a means to detect the jitter produced when that limit was recorded and updated, and the information concerning the jitter detected by this means to detect, and the jitter recorded on that storage.

[0038] Moreover, with the equipment of this invention, it can have a means to update the information on said limit recorded on the storage of a credit card, and this means to update can be equipped with a means to detect the new

jitter generated by updating, and a means to encode the jitter detected by this means to detect, and to record on the predetermined location of that credit card.

[0039] When a magnetic-recording medium is formed in the card and the credit card of this invention records digital information on the magnetic-recording medium, the information about the jitter produced accidentally is recorded. And the digital information is good to suppose that the information on the available limit about the card is included. The dependability can be made high especially when the information about the jitter is recorded on the host equipment connected with the equipment using the card by the communication line.

[0040] Although the above-mentioned example was explained as what sells a prepaid card, this invention can be directly constituted as a machine for pachinko of a ball on hire by considering as the configuration which replaces with a prepaid card and emits a suitable pachinko ball.

[0041]

[Effect of the Invention] As explained above, the system which can perform a pachinko game with a credit card can be built by this invention. That is, the limit which can use a pachinko game with a credit card can be set up specially, and the situation which becomes recovery impossible can be prevented. The limit is recorded on a credit card, and when the limit is altered, it can constitute so that it can be recognized. Therefore, use of an unjust credit card can be prevented.

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CLAIMS

[Claim(s)]
[Claim 1] A verification means to verify the justification of the credit card inserted in insertion opening and its insertion opening of a credit card, In the automatic vending machine equipped with a means to set up a debt setup of the assignment amount of money from the account of a credit card by which justification was verified with the verification means, and a means to discharge suitable **** for pachinko on hire (or ball on hire) in said amount of money The automatic vending machine characterized by having a means to recognize the available limit in the pachinko about said account, and a means to display the limit.
[Claim 2] The automatic vending machine according to claim 1 which includes the means of communications prepared between host equipment, and a means to refer to the information from the host equipment connected through this means of communications in said verification means.
[Claim 3] A means for the information on said limit to be recorded on the storage of the credit card concerned, and to recognize said limit is an automatic vending machine including a means to read the information about the limit recorded on the storage according to claim 1.
[Claim 4] The information on said limit is an automatic vending machine including a means to receive the information on the limit which is recorded on host equipment and comes from host equipment through said means of communications according to claim 2.
[Claim 5] A means the information on said limit is the information recorded on the storage of the credit card concerned, and the information on this limit is the information which combined and was recorded on host equipment, and recognize said limit is an automatic ticket vending machine including the means which receives the information on that limit that comes from host equipment through said means of communications while reading the information recorded on that storage, and carries out the comparison reference of both the information according to claim 2.
[Claim 6] It is collectively recorded by the information concerning the jitter produced when recording the information on said limit on this magnetic storage medium at the storage of said credit card including a magnetic storage medium. A means to detect the jitter produced when a means to recognize said limit recorded and updated said limit, An automatic vending machine including a means to recognize the justification of that limit amount of money by collating the information concerning the jitter detected by this means to detect, and the jitter recorded on that storage according to claim 3 or 5.
[Claim 7] It is the automatic vending machine according to claim 6 equipped with a means for this means to update to encode the jitter detected by means to detect the new jitter generated by updating, and this means to detect, and to record on the predetermined location of that credit card, by having a means to update the information on said limit recorded on the storage of said credit card.
[Claim 8] The credit card with which the information about the jitter produced accidentally [when a magnetic storage medium is formed in the card and digital information is recorded on the magnetic storage medium] was recorded.
[Claim 9] Said digital information is a credit card including the information on the available limit about the card according to claim 8.
[Claim 10] The credit card according to claim 8 with which the information about said jitter was recorded on said some of magnetic storage media.
[Claim 11] The credit card according to claim 8 with which the information about said jitter was recorded on the storage formed in the card other than said magnetic storage medium.
[Claim 12] The credit card according to claim 8 recorded on the host equipment with which the information about said jitter is connected with the equipment using the card by the communication line.

[Translation done.]